

WE CLAIM:

1. A method for differentiating between a person having substantially normal parathyroid function and having hyperparathyroidism comprising determining and comparing at
5 least two of the parameters selected from the group consisting of the whole parathyroid hormone level, the parathyroid hormone inhibitory peptide fragment level, and the total parathyroid hormone level in the person.
2. The method of Claim 1 wherein the comparison is in the form of a ratio or proportion.
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3. The method of Claim 1 wherein the person is a patient with chronic uremia.
4. The method of Claim 1 wherein one measures the whole parathyroid hormone level and the total parathyroid hormone level in the person, determines the parathyroid
15 hormone inhibitory peptide fragment level from these two measurements, and compares the whole parathyroid hormone level to the parathyroid hormone inhibitory peptide fragment level.
5. The method of Claim 4 wherein the comparison is in the form of a ratio or proportion.
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6. The method of Claim 4 wherein the person is a patient with chronic uremia.
7. A method for differentiating between a person having substantially normal parathyroid function and having hyperparathyroidism comprising determining one parameter
25 selected from the group consisting of the whole parathyroid hormone level, the parathyroid hormone inhibitory peptide fragment level, and a calculated total parathyroid hormone level.

8. The method of Claim 7 wherein one determines the parathyroid hormone inhibitory peptide fragment level by measuring the whole parathyroid hormone level and the total parathyroid hormone level.
- 5 9. The method of Claim 7 wherein one determines the total parathyroid hormone level by measuring the whole parathyroid hormone level and the parathyroid hormone inhibitory peptide fragment level.
- 10 10. The method of Claim 7 wherein the person is a patient with chronic uremia.
- 11 11. The method of Claim 1 wherein one measures and compares the whole parathyroid hormone level and the parathyroid hormone inhibitory peptide fragment level.
- 15 12. The method of Claim 11 wherein the comparison is in the form of a ratio or proportion.
13. The method of Claim 11 wherein the person is a patient with chronic uremia.
- 20 14. The method of Claim 1 wherein one measures and compares the whole parathyroid hormone level and the total parathyroid hormone level in the person.
15. The method of Claim 14 wherein the comparison is in the form of a ratio or proportion.
- 25 16. The method of Claim 14 wherein the person is a patient with chronic uremia.
17. The method of Claim 1 wherein one measures and compares the parathyroid hormone inhibitory peptide fragment level and the total parathyroid hormone level in the person.

18. The method of Claim 17 wherein the comparison is in the form of a ratio or proportion.
19. The method of Claim 17 wherein the person is a patient with chronic uremia.
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20. A method for monitoring parathyroid related bone diseases and treatments therefor comprising determining and comparing at least two of the parameters selected from the group consisting of the whole parathyroid hormone level, the parathyroid hormone inhibitory peptide fragment level, and the total parathyroid hormone level in the person.
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21. The method of Claim 20 wherein the comparison is in the form of a ratio or proportion.
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22. The method of Claim 20 wherein one measures the whole parathyroid hormone level and the total parathyroid hormone level in the person, determines the parathyroid hormone inhibitory peptide fragment level from these two measurements, and compares the whole parathyroid hormone level to the parathyroid hormone inhibitory peptide fragment level.
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23. The method of Claim 22 wherein the comparison is in the form of a ratio or proportion.
24. The method of Claim 20 wherein one measures and compares the whole parathyroid hormone level and the parathyroid hormone inhibitory peptide fragment level.
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25. The method of Claim 20 wherein one measures and compares the whole parathyroid hormone level and the total parathyroid hormone level in the person.

26. The method of Claim 24 wherein the comparison is in the form of a ratio or proportion.
27. The method of Claim 25 wherein the comparison is in the form of a ratio or proportion.
28. The method of Claim 20 wherein one measures and compares the parathyroid hormone inhibitory peptide fragment level and the total parathyroid hormone level in the person.
29. The method of Claim 28 wherein one measures the whole parathyroid hormone level in order to calculate the parathyroid hormone inhibitory peptide fragment level from the whole parathyroid hormone level and the total parathyroid hormone level.
30. The method of Claim 28 wherein the comparison is in the form of a ratio or proportion.
31. A method for monitoring parathyroid related bone diseases and treatments therefor comprising determining one parameter selected from the group consisting of the whole parathyroid hormone level, the parathyroid hormone inhibitory peptide fragment level, and the calculated total parathyroid hormone level.
32. The method of Claim 31 wherein one determines the parathyroid hormone inhibitory peptide fragment level by measuring the whole parathyroid hormone level and the total parathyroid hormone level.
33. The method of Claim 31 wherein one determines the total parathyroid hormone level by measuring the whole parathyroid hormone level and the parathyroid hormone inhibitory peptide fragment level.

- 5 34. A method for monitoring the effects of therapeutic treatment for hyperparathyroidism comprising determining and comparing at least two of the parameters selected from the group consisting of the whole parathyroid hormone level, the parathyroid hormone inhibitory peptide fragment level, and the total parathyroid hormone level in the person.
- 10 35. The method of Claim 34 wherein the comparison is in the form of a ratio or proportion.
- 15 36. The method of Claim 34 wherein one measures the whole parathyroid hormone level and the total parathyroid hormone level in the person, determines the parathyroid hormone inhibitory peptide fragment level from these two measurements, and compares the whole parathyroid hormone level to the parathyroid hormone inhibitory peptide fragment level.
- 20 37. The method of Claim 36 wherein the comparison is in the form of a ratio or proportion.
- 25 38. The method of Claim 34 wherein one measures and compares the whole parathyroid hormone level and the parathyroid hormone inhibitory peptide fragment level.
39. The method of Claim 34 wherein one measures and compares the whole parathyroid hormone level and the total parathyroid hormone level in the person.
40. The method of Claim 39 wherein the comparison is in the form of a ratio or proportion.
41. The method of Claim 34 wherein one determines and compares the parathyroid

hormone inhibitory peptide fragment level and the total parathyroid hormone level in the person.

5 42. The method of Claim 41 wherein one determines the parathyroid hormone inhibitory fragment level by measuring the whole parathyroid hormone and the total parathyroid hormone level.

10 43. The method of Claim 41 wherein the comparison is in the form of a ratio or proportion.

15 44. A method for monitoring the effects of therapeutic treatment for hyperparathyroidism comprising determining one parameter selected from the group consisting of the whole parathyroid hormone level, the parathyroid hormone inhibitory peptide fragment level, and the calculated total parathyroid hormone level.

20 45. The method of Claim 44 wherein one determines the parathyroid hormone inhibitory peptide fragment level by measuring the whole parathyroid hormone level and the total parathyroid hormone level.

25 46. The method of Claim 44 wherein one determines the total parathyroid hormone level by measuring the whole parathyroid hormone level and the parathyroid hormone inhibitory peptide fragment level.